

Dumont d'Urville Bilateral Scientific Exchanges

TreeBiotech

Biotechnologies for safer movement of plant germplasm

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Outline of Programme

- 2010 -2011
- 4 visits to NZ and France
- Shipping technology for tissue cultured plants
- DNA technology for traceability and early detection of variants
- Public/private partnership

Shipping technology for tissue cultured plants

- Safe movement of plant germplasm *via* tissue culture
- Oil palm (*Elaeis guineensis*) trial
- Montpellier to TheTreeLab to Montpellier
- Kuala Lumpur to TheTreeLab to Montpellier (*Thanks to FELDA Biotech, Malaysia*)



Shipping technology for tissue cultured plants

Assessment of:

- ✓ Quarantine procedures (MAF)
- ✓ Customs clearance
- ✓ Shipping containers
- ✓ Shipping media
- ✓ Specific packaging



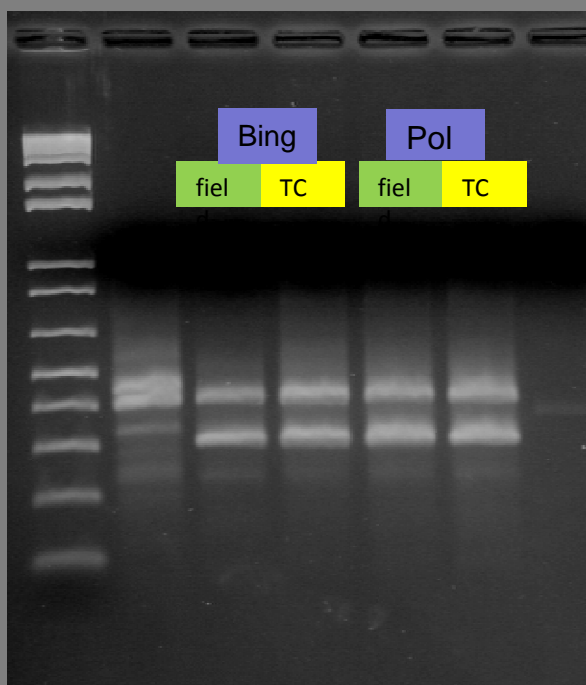
DNA technology

Jenny's training at Cirad in Montpellier for:

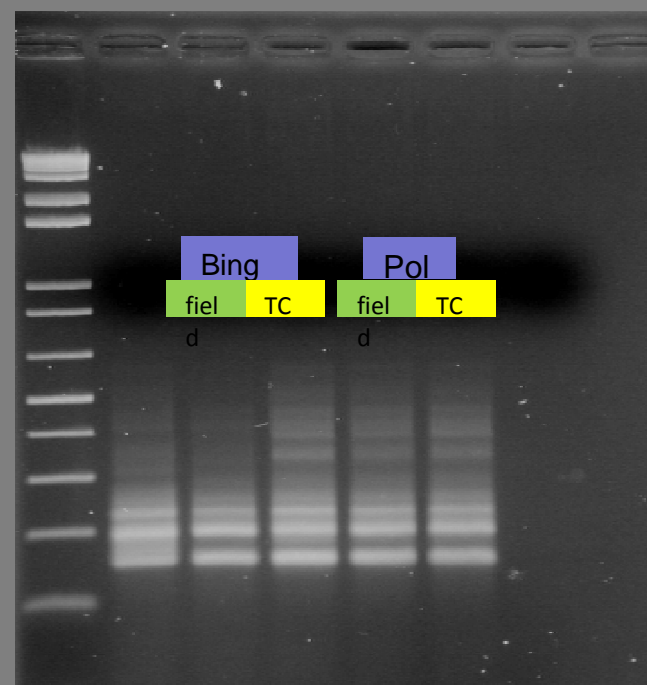
- DNA extraction
- DNA quantitation
- DNA Markers
- Lab requirements



ISSR markers: some promising results (1)



Primer 816

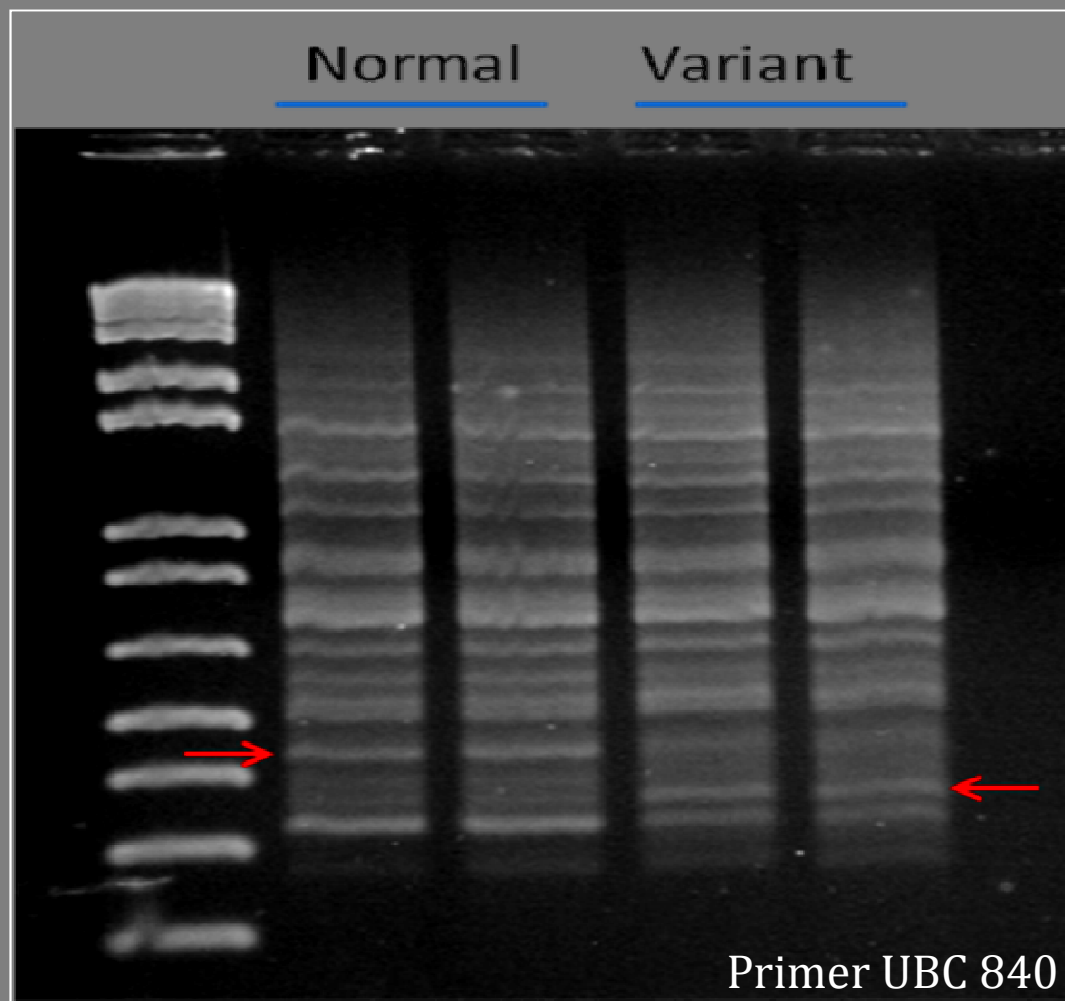


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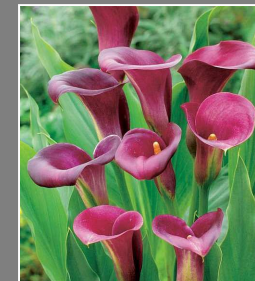
Vaccinium (blueberry)



ISSR markers: some promising results (2)



Zantedeschia (Calla Lily)



Win-win!

Benefits for CIRAD:

- Adapting new culture procedures from TheTreeLab which can be used in both France and tropical countries
- Extending expertise on DNA markers on new species and types of variants

Benefits for TheTreeLab:

- Applying new shipping procedures to tropical plants
- Establishing on-site facility for DNA markers
- Providing robust quality control services to clients



Future directions for research



- ✓ Focus on one single species of commercial interest : **Blueberry (*Vaccinium*)**
- ✓ Develop a DNA extraction method from **fruit**
- ✓ Develop a new series of **ISSR markers**
- ✓ Assess robustness and capacity to differentiate between **cultivars/clones/variants**
- ✓ Generate a tool kit for improved **blueberry traceability** in NZ and France



Cheers...

... and thank you for your kind attention !